that physician migration to the northwest will continue to make up for the shortfall.

In terms of costs, there are significant savings to the health care payers of the region because of the present size of the program. The difference between the 1986–87 ratio of residents to population (4.1 residents/100,000 population) compared with the national average (6.0 residents/100,000 population) can be translated to an estimated savings of about $5 million per year in direct educational cost for the WAMI states (12). Given the close linkage of physician supply and overall health care costs, substantially larger savings may have accrued and may continue to accrue if, by having smaller programs or a better balance of training programs, the region has avoided an excessive or inappropriate physician supply.

In the early 1970s, as part of managing the size of its GME program, the school adopted a deliberate strategy to limit the growth of many of its specialty programs and to permit some other programs to grow. The changes shown in Figure 2 can be compared with national data for this same period. Nationally, there was an overall increase of 16 percentage points in the proportion of positions in family medicine, internal medicine, and pediatrics between 1970 and 1985 (from 25 to 41 percent of these residency positions) (13). The proportion in these specialties grew by 19 percentage points in the WAMI program over this same period (from 33 to 52 percent of the positions) with the creation of 222 new positions in the school's residency programs in family medicine, internal medicine, and pediatrics. In 1986–87, 58 percent of the residents were completing training in these specialties. Follow-up studies have shown that a substantial proportion of the WAMI's GME graduates in family medicine (14) and internal medicine (9) practice as generalists and live in small communities in this region.

In reviewing the operation of this GME program, four key factors have helped the program to work well. First, financial resources derived from several sources are centrally coordinated. The school has had state, federal, and foundation funds to support the educational component of the GME program and to facilitate program changes. The understanding that binding financial arrangements for GME are made between the school's associate dean for clinical affairs and the hospital directors and/or administrators and not between the hospital directors and/or administrators and the department chairmen has been critical.

A second factor is the program's consistent effort to develop data on GME and physician manpower in this region. Although no comprehensive data base has been maintained, studies such as a comparison of residency program output and HMO manpower needs that was done in the early 1970s and follow-up studies on the location of former students and residents have been powerful influences in shaping the GME effort.

A third factor is a regular discussion forum for program directors and hospital administrators. For many years these individuals have met monthly to discuss hospital and GME problems and work to develop a consensus for their resolution. From these meetings have come improved mutual understanding of otherwise independent programs and an institutional commitment to flexibility, cooperation, and change.

A fourth key factor in managing the GME program successfully is maintenance of a long-range perspective. Most changes in program size or content must be anticipated by about two years if they are to be managed smoothly. Similarly,

the long-term effects of resident selection are important but sometimes difficult to anticipate. For example, the slow and planned expansion of the GME program with few foreign medical graduates accepted for training appears to have resulted in relatively low percentages and numbers of foreign graduates who practice in this region (15). This result occurred despite the fact that state licensure requirements are not a barrier to foreign physicians.

Nationally, it is now well recognized that the size, content, and location of GME programs are important factors in influencing the geographic and specialty distributions of physicians and health care costs. At present, the federal government seeks to control some of these factors through policies that limit hospital reimbursement for educational costs, but whether this strategy will be effective is uncertain. The experience described in the present report suggests that a medical school working in close cooperation with its affiliated hospitals can foster and manage a high-quality GME program that controls its size and costs and the distribution of the specialists it trains.

References

1. *Summary Report of the Graduate Medical Education National Advisory Committee.* (DHHS Publication No. [HRA]81-651). Washington, D.C.: U.S. Department of Health and Human Services, 1980.
2. *Prescription for Change/The Commonwealth Fund Report of the Task Force on Academic Health Centers.* New York: Harkness House, 1985.
3. *Report of the New York State Commission on Graduate Medical Education.* New York: State Department of Health, 1986.
4. *Financing Graduate Medical Education/ Final Report of the AAMC Committee on Financing Graduate Medical Education.* Washington, D.C.: Association of American Medical Colleges, 1986.
5. KINNEY, T. D. (Chairman). Implications of Academic Medical Centers Taking Responsibility for Graduate Medical Education. *J. Med. Educ.*, **47**:77–84, 1972.
6. STROSS, J. K., HISS, R. G., RINALDO, J. A., DYKMAN, C. J., and VANSELOW, N. A. A Statewide Approach to Graduate Medical Education. *N. Engl. J. Med.*, **291**:701–706, 1974.
7. SCHWARZ, M. R. WAMI—An Experiment in Regional Medical Education. *West. J. Med.*, **121**:333–341, 1974.
8. GEYMAN, J. P., DEISHER, J. B., and GORDON, M. J. A Family Practice Residency Network. *J.A.M.A.*, **240**:369–371, 1978.
9. DALE, D. C., et al. Restructuring an Internal Medicine Residency Program to Meet Regional and National Needs for General Internists. *Am. J. Med.*, **70**:1085–1090, 1981.
10. ROBACK, G., MEAD, D., and RANDOLPH, L. *Physician Characteristics and Distribution in the U.S./1986 Edition.* Chicago, Illinois: American Medical Association, 1986.
11. BURFIELD, W. B., HOUGH, D. E., and MARDER, W. D. Location of Medical Education and Choice of Location of Practice. *J. Med. Educ.*, **61**:545–554, 1986.
12. *A Study on Cost Accounting of Graduate Medical Education/Final Report* (NTIS Report No. [HRP] 0904616/0). Washington, D.C.: Health Resources Administration, 1983.
13. CROWLEY, A. E. Graduate Medical Education. *J.A.M.A.*, **256**:1585–1594, 1986.
14. GEYMAN, J. P., CHWEKIN, D. C., DEISHER, J. B., and GORDON, M. J. Graduate Follow-Up in the University of Washington Family Practice Residency Network. *J. Fam. Pract.*, **11**:743–752, 1980.
15. EILER, M. A., and LOFT, J. D. *Foreign Medical Graduates/1986 Edition.* Chicago, Illinois: American Medical Association, 1986.

Stressors and Psychological Symptoms Of Family Practice Residents and Spouses

Mary F. Smith, Frank Andrasik, Ph.D., and Stephen J. Quinn

Abstract—Fifty-nine family practice residents and their spouses from one university-based and three community-based residency programs were studied to assess the frequency of stressful events in their lives and to quantify adverse psychosocial effects associated with that stress. A modified version of a questionnaire produced and tested by the University of Minnesota and the widely used, standardized Symptom Checklist-90 (SCL-90) were used to assess stress and psychological symptoms. There was a high correlation between high numbers of stressful events in the residents' and spouses' lives and high ratings of psychological symptoms. This finding was particularly true for the female residents. Overall, the residents' responses were near the mean for a nonpatient group used as a normative comparison on each of the nine subscales of the SCL-90 and on the overall mean for the entire scale. This finding indicated that the residents, although their lives were quite stressful, were handling the stress without major problems. The residents and their spouses also answered questions about 10 therapeutic interventions concerning stress and indicated which interventions they preferred.

In the lay and professional literature there is frequently some discussion of stress and its deleterious consequences. Several different sources indicate that physicians may be particularly prone to the damaging effects of stress (1–3). Suicide and divorce rates are higher among physicians than other professionals. House staff officers have been designated by the American Medical Association as a group at risk (3). Further, physician impairment is doubly serious because the effects are not limited to that individual and immediate family. Such impairment can lower the quality of patient care and, in the extreme case, can cause harm to the patient. The pervasiveness of these consequences indicates that those responsible for educating physicians need a sound understanding of physician impairment, the factors that cause it, and the preventive and/or therapeutic measures to be undertaken in graduate medical education programs to neutralize the possible damaging effect that high levels of stress can have on physicians' lives and practices.

Examination of the literature on stress

The research reported here was supported in part by grant 5-D15-PE5-2024-02 from the Division of Medicine, U.S. Department of Health and Human Services.

Ms. Smith is assistant clinical professor, Department of Family Practice, Albany Medical College, Albany, New York; Dr. Andrasik is professor and director of graduate studies, Department of Psychology, College of Arts and Sciences, University of West Florida, Pensacola; and Mr. Quinn is a doctoral student in clinical psychology, Department of Psychology, School of Social and Behavioral Sciences, State University of New York at Albany.

in medical education and residency programs in particular reveals that most articles are theoretical or position papers (4, 5), are anecdotal or otherwise uncontrolled reports (6, 7), or are concerned exclusively with undergraduate medical education, which may not be sufficiently similar to postgraduate medical education to allow comparison (8).

The present study was undertaken to examine factors that might hinder or prevent successful completion of a residency. The authors' specific purpose was to assess and categorize the occurrence of stressful events in the lives of family practice residents and determine whether these stressors were associated with demonstrable effects on the psychosocial functioning of the residents and their spouses.

In 1976 Nelson and Henry (9) at the University of Minnesota similarly analyzed the stressors that residents experienced but did not examine psychosocial sequelae or effects on the residents' spouses. The stress scale used in this Minnesota investigation has no normative data by which to judge the clinical significance of the scores they obtained, and neither do other existing stress scales. One way to assess the clinical significance of stress scores is to compare scores on a stress instrument with scores obtained by the same individual on a standardized psychosocial inventory.

Method

In the present study, a sample of residents completed a revised version of the Minnesota scale used by Nelson and Henry and a broad-spectrum psychological inventory, the Symptom Checklist-90 (SCL-90) in order for the investigators to quantify objectively any adverse psychosocial effects of stress. The SCL-90 was used in another investigation of stress in a graduate training program in 1984 (10). Scores from the residents in the present study were compared with those of psychiatric outpatients and nonpatient control groups taken from the SCL-90 manual (11). Finally, the residents and their spouses indicated which of a series of therapeutic interventions (that is, preventive or remedial programs to counter stress) they preferred.

The participants were residents in four family practice programs in or near Albany, New York: Albany Medical College Department of Family Practice; Mid-Hudson Family Health Services Institute, Kingston; St. Clare's Hospital, Schenectady; and St. Elizabeth's Hospital, Utica. The Albany program is university-based, while the other three are community-based. All the residents ($n = 62$) and spouses ($n = 46$) from the four programs were invited to be a part of this study.

In the first six months of 1985, the authors met alone with each program director and then with the program director and the residents together at each of the four locations to discuss the purpose of the study and to encourage the residents to participate. At the group meeting the questionnaires were distributed to the residents and, depending on the time allotted for this meeting, the residents did or did not complete the survey. The spouses were not included at this point, and married residents took test packets to their spouses. Those residents who did not attend the meeting were mailed a packet for themselves and their spouses. One follow-up letter was sent to each resident to encourage completion and return of the survey packet and to express appreciation for participation. Participation was entirely voluntary, and complete anonymity was guaranteed.

Each test packet included the revised version of the Minnesota scale, the SCL-

90, and the questions about preventive or remedial programs. Ten program options were listed, and the respondents were asked to state whether the proposed program should be offered and whether they would be likely to attend. Both questions required a yes-no response. The respondents were then asked to rank-order the top three choices of interventions they would participate in if they were offered in their residency.

In the original version of the scale used by Nelson and Henry (9), the male residents answered either yes or no as to whether each of 130 potentially stressful situations existed in their lives; the female residents answered 138 and the spouses 110 questions. However, the present authors thought that few situations are so clear that they can be answered yes or no. Also, completing the original survey probably required several intervening decisions on the part of the resident (such as making judgments about the degree to which the stated problem was present in their lives and establishing idiosyncratic criteria for deciding whether an item was a problem). To alleviate these difficulties, the authors modified the original questionnaire (hereafter termed the Minnesota-R scale). The revised scale attempted to minimize idiosyncratic responding yet still leave the scale similar enough to permit a near replication of the Nelson-Henry study. The revised version used a 5-point Likert format, with responses ranging from 0 (not a problem) to 4 (extreme problem).

The SCL-90 is a 90-item self-report psychological inventory that yields nine primary symptom dimensions and three global indices of psychological distress (11, 12). The scale measures psychological symptoms at the time the instrument is administered rather than ingrained personality constructs. Respondents give a level of distress for each symptom item on a scale from 0 (not at all) to 4 (extremely). Psychometric investigations have reported the nine symptom dimensions and three global scales to be reliable, valid, and factorially invariant; norms have been collected for various groups. The designer of the SCL-90 recommended that raw scores be used in statistical analyses, but raw scores can be converted to T-scores to facilitate clinical interpretation if desired. That conversion was done.

Results

The response rate for the total group was 60.2 percent: 62.9 percent of the residents (n = 39) and 56.5 percent (n = 26) of their spouses. Of these, data were missing or incomplete for one resident and five spouses; these surveys were dropped from all subsequent analyses. Of the remaining 38 residents, 30 were male and eight were female. Of these, 21 male and five female residents were married. Eighteen of the 21 male residents' spouses and three of the five female residents' spouses returned completed questionnaires. Those programs where the residents were allotted time at the meeting to complete the Minnesota-R scale had a much better response rate than the programs where the residents were asked to complete the surveys at some other time (100 percent rate of participation verses 21.7 percent rate).

The first analysis addressed whether level of stress was systematically related to overall psychological distress. The total stress scores from the Minnesota-R scale for all the residents combined and for residents after taking marital status into account were correlated with the global severity index (GSI) for the SCL-90, as this index has been found to be the best single indicator of level or depth of psychological distress (13). The GSI is the

mean rating for all 90 items. Increased numbers of stressful events in the residents' lives were highly correlated with increased psychological symptoms in all instances: $r = .85$ ($df = 36$, $p < .001$) for all the residents combined, $r = .81$ ($df = 25$, $p < .001$) for the married residents, and $r = .92$ ($df = 10$, $p < .001$) for the single residents.

Dividing the residents by gender and directly comparing the score values by *t*-tests yielded significant results. The female residents identified more stressors associated with the residency program ($t = 3.72$, $df = 36$, $p < .001$) on the Minnesota-R scale and reported a higher level of psychological distress than the men ($t = 2.76$, $df = 36$, $p < .025$) on the SCL-90 GSI). Responses to the 130 items of the Minnesota-R scale were tabulated for both the male and female residents (exclusive of the eight items just for females). The female residents' mean total score on the Minnesota-R scale was nearly double that of males' (74.8 versus 41.3) and on the SCL-90 GSI three times that of the males (.74 versus .24). No significant effects were observed for marital status or for comparisons across programs (university-based versus community-based) for either the Minnesota-R scale or the SCL-90.

The next analysis involved a closer examination of the subscales of the SCL-90. Table 1 contains mean raw score values (which can range from 0 to 4.0) for the SCL-90's nine clinical scales and for the GSI for residents and spouses, categorized by gender. Mean scores for psychiatric outpatients (pooled from patients seen at four academic medical centers) and for nonpatient controls (a stratified random sample for a single county in a large eastern state), both taken from the SCL-90 manual (11), are included in Table 1 for comparison.

TABLE 1

Mean Scores of Family Practice Residents in Four Upstate New York Residency Programs and Their Spouses and the Mean Scores of Two Normative Comparison Groups (Psychiatric Outpatients and Nonpatients) on Nine Subscales and Overall on the Symptom Checklist-90, 1986*

Scales	New York Sample				Normative Samples†			
	Residents		Spouses		Psychiatric Outpatients		Nonpatients	
	male ($n = 30$)	female ($n = 8$)	male ($n = 3$)	female ($n = 18$)	male	female	male	female
Somatization	.20	.49	.37	.18	.87	.75	.36	.42
Psychoticism	.09	.39	.50	.18	.94	.91	.14	.45
Obsessive compulsive	.38	.93	1.07	.36	1.47	.89	.39	.39
Interpersonal sensitivity	.34	.89	1.22	.65	1.41	.94	.29	.44
Depression	.40	1.54	1.51	1.03	1.79	.88	.36	.37
Anxiety	.12	.48	1.03	.30	1.47	.93	.30	.40
Hostility	.38	.60	1.50	.68	1.10	.80	.30	.31
Phobic anxiety	.02	.16	.43	.11	.74	.92	.13	.44
Paranoid ideation	.22	.65	1.22	.49	1.16	.70	.34	.25
Global severity index‡	.24	.72	1.01	.45	1.26	.68	.31	.31

* The SCL-90 is a 90-item self-report inventory that measures psychological distress; respondents rate each symptom item on a scale from 0 (not at all) to 4 (extremely). The values reported here are the mean scores, by subscale; thus, the higher the score, the greater the distress.

† The values for the normative groups were taken from Derogatis (12).

‡ The GSI is the mean rating for all 90 items.

The male residents fell near the mean of the nonpatient group on each of the nine subscales and the GSI, a finding indicating that, although their lives might be stressful, these residents were not reporting heightened psychological concerns. The female residents scored somewhat higher than the nonpatient group on several scales, most notably the depression subscale, on which the female residents' mean score was over three standard deviations above the normative group score of .36. The depression score for female residents was the only one to approach a T-score cutoff of 70 (the T-value derived from the nonpatient norms was 66). To aid clinical interpretation, raw score values for tests are frequently transformed to a standardized T-distribution, wherein the mean value is 50 and the standard deviation is 10. Typically, any T-score value exceeding the mean by 2 standard deviations (or a T-score of 70) is considered a statistically and clinically significant difference. In the present studies, scores for the psychoticism, obsessive compulsive, interpersonal sensitivity, hostility, paranoid ideation, and GSI subscales were also elevated, but none of these reached the mean of the psychiatric outpatient group.

The spouses' responses to the subscales revealed increased levels of distress for both males and females. Because of the exceedingly small number of male spouse respondents ($n = 3$), these results should be interpreted cautiously if at all. The female spouses ($n = 18$) scored higher on the interpersonal sensitivity, depression, and hostility subscales than did the nonpatient comparison group and higher than the psychiatric outpatient group on the depression subscale.

Table 2 lists the 10 individual problems (from 130) on the Minnesota-R scale noted as a problem most often by all residents in the study. If the respondent chose any of the descriptors 1 to 4 (1, a

TABLE 2

Percentages of 38 Family Practice Residents in Four Upstate New York Residency Programs Who Considered Each Item To Be a Problem, for the 10 Items Most Frequently Considered To Be Problems by the Residents Overall, 1986*

Item	Percentage
Not enough time for self	100.0
Not enough leisure time	94.7
Not enough time to spend with friends/relatives	92.1
Not enough time for physical activities—sports, exercise	92.1
Problems created by inflexibility of work hours	89.2
Not enough time for study	86.8
Improvement needed in personal study habits	86.8
Not confident enough about self in medicine	68.4
Not enough money	65.8
Residents or medical people usually only people seen socially	65.8

* The male residents rated each of 130 items and the female residents rated 138 items on a 5-point scale from 0 (not a problem) to 4 (extreme problem). This instrument was identical to that used by Nelson and Henry (9) in 1976 except that the original yes-no format was converted to the 5-point format. In deriving the percentages shown here, the responses 1 to 4 on the Likert scale were judged to indicate that the respondent considered the item to be a problem.

little bit of a problem; 2, a moderate problem; 3, quite a problem; 4, extreme problem), it was counted as a problem. The four most frequently chosen problems all involve time constraints that prevent residents from engaging in activities outside their work.

Table 3 lists the 10 items most frequently rated as problems in the original 1976 study by Nelson and Henry and the percentages of residents in that study and the present study who considered these items to be problems. A Spearman's Rho correlation coefficient calculated for the rank orderings indicated a fairly high degree of relationship between the two samples ($r = .74$, $p < .02$). Four of the 10 items considered most frequently to be problems by the New York residents were not judged as problems by the Minnesota residents: "I don't have enough time for myself." "I don't have enough time for physical activities—sports, exercise." "The inflexibility of my work hours creates problems for me." "I don't have enough money." The first three of these items are similar to items most frequently considered to be problems by the Minnesota residents; but the fifth item ("I don't have enough money") is markedly different from those items.

The married New York residents were concerned about not seeing friends as much as they would like, thought that their spouses felt responsible for most of the housework, reported their spouses complained about the residents' long hours and weekend and night work, and believed that their spouses needed "to feel like more of a person." The married Min-

TABLE 3

Percentages of 87 Family Practice Residents in Minnesota in 1976 and 38 Family Practice Residents in Upstate New York in 1986 Who Considered Each Item To Be a Problem, for the 10 Items Most Frequently Considered To Be Problems by the Minnesota Residents*

Items	Percentages	
	Minnesota	New York
Not enough leisure time	69.1	94.7
Improvement needed in personal study habits	66.7	86.8
Not enough time to spend with friends/relatives	57.1	92.1
Not enough time for study	56.0	86.8
Not confident enough about self in medicine	40.5	68.4
Reservations about being a doctor	34.5	50.0
Sexual drive decreased since beginning residency	32.1	35.0
Not sure about wanting to be a family practice physician	23.8	36.8
Other residents and medical people usually only people seen socially	20.7	65.8
Feel treated unfairly by program staff	17.2	57.9

* The male residents rated each of 130 items and the female residents rated 138 items. In the 1976 study (9), the residents responded in a yes-no format; in the present study, they responded on a 5-point scale from 0 (not a problem) to 4 (extreme problem). In deriving the percentages shown for the New York residents, the responses 1 to 4 on the Likert scale were judged to indicate that the respondent considered the item to be a problem.

nesota residents were also concerned about these same issues. In addition, the married Minnesota residents agreed with the following items: "I am often too tired for sex." "My spouse complains of loneliness." "My spouse feels he/she must compete with my work." A Spearman's Rho was calculated for the top 20 items endorsed by each group of married residents, and there was a strong correlation between the two sets of rankings ($r = .68$, $p < .05$).

The final analysis concerned the 10 therapeutic interventions: residents' support group; spouses' support group; couples' support group; male residents' support group; female residents' support group; three-day weekend workshop on stress management; a stress management workshop for two hours on one day per week for eight to 10 weeks; self-applied stress management programs such as tapes and reading materials; relaxation therapy such as classes in biofeedback, relaxation exercises, and/or meditation; and professional counseling for individuals and/or couples. The respondents were asked to state yes or no as to whether the programs should be available and whether they would participate. They were then asked to rank-order their top three choices of interventions in which they would participate. Of these 10 possibilities, 40.6 percent of the participants ranked the residents' support group and relaxation therapy as their top two choices, and 30.5 percent ranked counseling for individuals and/or couples as their third option.

Discussion

In the study reported here, the authors attempted to identify the sources and effect of stress that family practice residents experience. One consistent finding was that the female residents reported more psychological distress than the male residents. Even though the women's mean scores were not clinically significant, there was a sizable difference between the scores of the female and male residents. It is possible that this finding occurred in part because, for example, the females may have responded more openly or may have been more sensitive of their feelings. The relative absence of female role models demonstrating effective coping behaviors in medicine may also account for some of these differences.

The spouses as a group showed more distress on each scale than did the residents. Since spouses feel they have to carry more than their share of family responsibilities when their partner is a resident, perhaps educators should focus more attention on reducing stress among spouses as a way to reduce stress for residents.

When the percentages of residents who considered each item a problem were compared between the present sample and the Minnesota sample, the percentages were much higher for the present sample for every item except two ("We have problems deciding about having children" [Minnesota, 28.1 percent agreed; New York, 22.2 percent agreed] and "My spouse and I are not able to talk about some of our problems" [Minnesota, 24.6 percent agreed; New York, 22.2 percent agreed]. This increase likely occurred because the 5-point response scale of the present instrument was more sensitive to reporting problems; that is, respondents who might have answered "no" in a yes-no format might have answered "a little bit of a problem" or "moderate problem" in the Likert format. Alternatively, the increase may indicate a true increase in stress over time (1976 verses 1986). Replication of the present findings at other programs would help clarify the signifi-

cance of the higher stress reported by the present sample.

Consistent with the authors' experience in working with family practice residents was the finding that the respondents felt a need for counseling services and support groups for residents and spouses. Even though the residents and spouses in the present sample did not score in the range indicating clinical illness on the SCL-90 and they appeared to be handling stress well, they felt a need for outside intervention. A similar conclusion was drawn by Tokarz and colleagues (2), who reported that house officers and their spouses felt a need for low-cost counseling services and support groups. In the past, medical students have had such counseling and support groups, but only recently has such support been recognized as essential for residents and their spouses. Weinstein (14) reported the formation of a committee on well-being for house staff members that provides counseling and serves as an ombudsman for them.

Focusing on understanding the sources of stress in a family practice residency could lead to more effective coping strategies by the residents or even amelioration of the stressful factors. With proper support, guidance, and leadership, residency programs could provide better preparation for the education and the mental and physical well-being of family physicians. These highly trained physicians could, in turn, better provide for the mental and physical well-being of the rest of the population.

The present study has limitations that should be acknowledged. These limitations concern the varied response rates across the four programs (21.7 to 100 percent), the small sample size for some groups (male spouses, for example), uneven gender distribution (almost four times more men than women), and the absence of more objective data to corroborate physical and emotional effects of stress (such as types of illness experienced, type and amount of care sought for emotional problems, or laboratory or biochemical measures). Follow-up research with larger samples and more objective data is needed. Larger sample sizes would permit measurement and comparison of effects of stress for other residency specialties as well. All such research will lack great value without field trials of preventive and/or remedial programs, and researchers should direct more of their attention to these programs.

References

1. VALKO, R. J., and CLAYTON, P. J. Depression in the Internship. *Dis. Nerv. Syst.*, **36**:26–29, 1975.
2. TOKARZ, J. P., BREMER, W., and PETERS, K. *Beyond Survival.* Chicago, Illinois: American Medical Association, 1979.
3. SIEGEL, B., and DONNELLY, J. C. Enriching Personal and Professional Development: The Experience of a Support Group for Interns. *J. Med. Educ.*, **53**:908–914, 1978.
4. ROESKE, N. C. A. Stress and the Physician. *Psychiatric Ann.*, **11**:245–258, 1981.
5. SMALL, G. W. House Officer Stress Syndrome. *Psychosomatics*, **22**:860–869, 1981.
6. KAHN, N. B., and SCHAEFFER, H. A Process Group Approach to Stress Reduction and Personal Growth in a Family Practice Residency Program. *J. Fam. Pract.*, **12**:1043–1047, 1981.
7. REUBEN, D. B. Psychological Effects of Residency. *South. Med. J.*, **76**:380–383, 1983.
8. GAENSBAUER, T. J., and MIZNER, G. L. Developmental Stresses in Medical Education. *Psychiatry*, **43**:60–70, 1980.
9. NELSON, E. G., and HENRY, W. F. Psychosocial Factors Seen as Problems by Family Practice Residents and Their Spouses. *J. Fam. Pract.*, **6**:581–589, 1978.
10. MAZIE, B. Job Stress, Psychological Health, and Social Support of Family Practice Residents. *J. Med. Educ.*, **60**:935–941, 1985.

11. DEROGATIS, L. R. *SCL-90: Administration, Scoring, and Procedure Manual—I.* Baltimore, Maryland: Johns Hopkins University Press, 1977.
12. DEROGATIS, L. R., RICKELS, K. and ROCK, R. F. SCL-90 and MMPI: A Step in the Validation of a New Self-Report Scale. *Br. J. Psychiatry*, **128**:280–289, 1976.
13. DEROGATIS, L. R., YEOZEROFF, H., and WITTELSHERGER, B. Social Class, Psychological Disorder, and the Nature of the Psychopathologic Indicator. *J. Consult. Clin. Psychol.*, **43**:183–191, 1975.
14. WEINSTEIN, H. M. A Committee on Well-Being of Medical Students and House Staff. *J. Med. Educ.*, **58**:373–381, 1983.